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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/633,837 | 08/07/2000 | Donald V. Smart | 06457-017002 | 6753 |

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EXAMINER

JACKSON, CORNELIUS H

ART UNIT

PAPER NUMBER

2828

DATE MAILED: 08/27/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

AVS

| | | | |
|------------------------------|---|---|--|
| Office Action Summary | Application N . 09/633,837 | Applicant(s) SMART, DONALD V. | |
| | Examiner Cornelius H. Jackson | Art Unit 2828 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 June 2003 and 28 June 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 40-111 is/are pending in the application.
- 4a) Of the above claim(s) 94-97 and 107-111 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 40-93 and 98-106 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Paul IP

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Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- 1. ☐ Certified copies of the priority documents have been received.
 - 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Acknowledgment

1. Acknowledgment is made of applicant's Amendment filed on 13 June 2003 and Supplemental Amendment filed 28 June 2003. Upon entrance of the Amendments, claims 40, 55, 86-88 and 98 were amended and claims 94-97 and 107-11 were withdrawn from consideration. Claims 40-111 are pending in the current application with claims 94-97 and 107-111 withdrawn from consideration.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 40-93 and 98-106 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a variety pulse shapes independent of the time interval between pulses, does not reasonably provide enablement for all pulse shapes and/or any time interval. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make the invention commensurate in scope with these claims. The specification fails to enable one of ordinary skill in the art the make the invention with a time interval that is less than storage time needed for the pulse to built up nor enable one to have a pulse shape that is approximately continuous.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

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The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 40-93 and 98-106 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

6. Claims 40-93 and 98-106 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted steps are: the step used to keep the unwanted portion of the pulse off or away from the target.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 40-93 and 98-106 are rejected under 35 U.S.C. 103(a) to the extent understood as being unpatentable over Emmons, Jr. et al. (5,197,074). Emmons, Jr. et al. teaches a method of operating a pulsed laser system comprising a laser source **22**, method comprising: pulsing the pulsed laser system, triggering storage of the energy by the laser source for a fixed, predetermined period of time prior to each of a plurality of emission periods, **col. 4, lines 63-68 and col. 5, lines 1-15**, allowing energy to be emitted from the laser source during each emission period, **se col. 4, lines 39-63, col. 5, lines 27-64 and col. 6, line 49-col. 7, lin 3**. As for the limitation of pre-selecting the

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pulse shape and/or pulse energy based on the known properties of a target, it would have been obvious to one of ordinary skill in the art at the time the invention was made to pre-select the output of the pulse shape and/or pulse energy of the pulsed laser system based on the known properties of the target material to be processed to ensure the material processed correctly, e.g., to ensure the material is not over/under processed.

In regards to claims 55, 86, 87, 88 and 98, Emmons, Jr. et al. teach all the stated limitations, **see col. 4, lines 39-62 and the rejection to claim 40 above.**

In regard to claims 41-43 and 56-58, Emmons, Jr. et al. teaches pre-selecting the pulse width, pulse energy, and peak power, **see claim 1.**

In regard to claims 44-49, 59-64, 69-85, 89-93 and 99-106, it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex Parte Masham*, 2 USPQ F.2d 1647 (1987).

In regard to claims 50-51 and 65-66, Emmons, Jr. et al. teaches computer-controlled system, **column 6, lines 4-17 and column 7, lines 32-42.** It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the computer solve the complicated mathematical equations involved in finding the correct processing values to pre-select the output of the pulse shape and/or repetition rate of the pulsed laser system based on the known properties of the target material to be processed.

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In regard to claims 52-53 and 67-68, Emmons, Jr. et al. teaches a laser rod **1**, a laser pump **22**, a reflector **16** interposed between the pump and the rod, an output reflector **18**, and a switch **12** interposed between the laser rod and the output reflector, when closed, causes energy to be stored in the laser rod for a fixed desired time of the time it takes for an acoustic wave of sufficient power to prevent feedback to propagate through the acousto-optic medium. When open, allows energy to be emitted from the laser rod during an emission period, **column 4, lines 63-68 and column 5, lines 1-15**.

Response to Arguments

9. Applicant's arguments with respect to claims 40-93 and 98-106 have been considered but are moot in view of the new ground(s) of rejection, since claims are broad and indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cornelius H. Jackson whose telephone number is (703) 306-5981. The examiner can normally be reached on 8:00 - 5:00, Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Ip can be reached on (703) 308-3098. The fax phone numbers for the organization where this application or proceeding is assigned are (703)308-7722 for regular communications and (703)308-7721 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0956.



chj
August 25, 2003



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